

MASTER THESIS

Plant breeding for organic agriculture - common bunt resistance in winter wheat



Common Bunt (*Tilletia caries*, *Tilletia laevis*) is re-merging seed borne disease in organic and conventional wheat in Europe, including Austria. Particularly for organic production host resistance is the most important strategy to control bunt, but resistant cultivars are rare. Since classical resistance breeding for bunt resistance is time and cost-intensive, marker assisted selection would be of particular use. Detailed knowledge about resistance genes is necessary to develop molecular markers that can be applied in SMART breeding. The genetics of bunt resistance is, however, largely unknown. To this end, mapping populations have been developed, which will be used to identify bunt resistance genes in winter wheat.

This master thesis will phenotypically evaluate several populations, based on crosses between 'exotic' germplasm and adapted cultivars, for bunt resistance (and other traits) in field trials located in Tulln, near the UFT.

You are:

- **Currently pursuing your Master studies** at BOKU, preferentially in **Plant Sciences, Phytomedicine or Organic Agriculture?**
- Interested in **plant breeding, organic agriculture, phytomedicine?**
- Interested in practical **field work** (disease scoring) and **data analysis** of field trials?
- Able to work independently?

We offer: A master thesis, with a highly relevant topic and a strong connection to the currently ongoing ERA-Net Core Organic II Project "COBRA Austria"; guidance and supervision regarding theoretical and practical research question;

Interested? Please contact:

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